

CUSTOMER NO. 46900



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: Attorney Docket No. Gabara 81-10-1-14

In re Application of: Thaddeus J. Gabara et al.

Serial No.: 10/054,687  
Filed: 1/22/02  
Matter No.: 992.1002

Group Art Unit: 2631  
Examiner: Freshveh N. Aghdam  
Phone No.: 571-272-6037

For: Block Processing In A Maximum A Posteriori Processor For Reduced Power Consumption

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reason(s) stated in the attached Remarks/Arguments section.

\* \* \* \* \*

Certification Under 37 CFR 1.8

Date of Deposit 8/16/07

I hereby certify that this correspondence is being deposited in the United States Postal Service with sufficient postage as first class mail under 37 CFR 1.8 on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Gerry Marrero  
(Name of person mailing)

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(Signature of person mailing)

## REMARKS/ARGUMENTS

### The §103 Rejections of Claims 1-4, 7-12, and 15-17

On page 3 of the 5/17/07 final office action, the Examiner rejected claims 1-4, 7-12, and 15-17 under 35 U.S.C. 103(a) as being unpatentable over U.S. Application No. 2002/0029362 ("Stephen") in view of U.S. Patent No. 5,600,664 ("Hayashi") and the instant application's disclosed prior art (the "APA").

In the 2/12/07 amendment, the Applicant argued that claims 1-4, 7-12, and 15-17 are allowable over Stephen, Hayashi, and the APA, as follows:

Claim 1 recites, *inter alia*, that:

updating the forward probability for a state in step (c) comprises the step of selecting the maximum combined probability for transitions to the current state, given by:

$$A_j^k = \max_{i=0,1,\dots,7}^*(A_i^{k-N} + \tilde{\Gamma}_{i,j}^k) \quad \text{for } j = 0, 1, \dots, M-1,$$

where  $\tilde{\Gamma}_{i,j}^k$  is the combined probability obtained by adding  $N$  individual branch metrics from time  $k-N$  to time  $k$  in an original trellis, and  $M$  is the number of states.

As the Examiner acknowledges in the 5/17/07 final office action, Stephen and Hayashi fail to disclose the foregoing features of claim 1, which the Examiner has previously acknowledged in indicating the subject matter of claim 1 as allowable. The Examiner then attempts to supply these missing teachings by alleging that "[t]he instant application's disclosed prior art teaches updating the forward probability for a state comprises selecting the maximum combined probability for transitions to the current state given by equations 8-9 (Pg. 3)." This statement is a mischaracterization of the teachings of the instant application's disclosed prior art. Equations (8) and (9), reproduced below, do not disclose selecting a maximum combined probability for two or more transitions to the current state, as the Examiner claims, but rather, merely maximum probabilities for single transitions to the current state:

$$A_j^k = \max_{i \in S}^*(A_i^{k-1} + \Gamma_{i,j}^k) \quad (8)$$

$$B_i^{k-1} = \max_{j \in S}^*(B_j^{k-1} + \Gamma_{i,j}^k) \quad (9)$$

Note that claim 1 recites that  $N$  must be "an integer greater than 1," i.e., to account for more than one transition. In Equations (8) and (9), the superscript to the first term in the  $\max^*$  operand is  $k-1$ , which indicates only a single transition – NOT  $k-N$ . No merged or combined trellis is ever discussed in the Applicant's disclosed prior art, and therefore, Equations (8) and (9) cannot possibly disclose the selection of any maximum combined probability. In fact, the modification of Equations (8) and (9) to conform to a merged-trellis structure is disclosed as part of the *Detailed Description* section of the specification, e.g., at p. 5, line 27, to p. 6, line 22 – not in the *Background of the Invention* section of the specification. The Examiner is therefore using the Applicant's own invention to supply missing teachings for this obviousness rejection. It is well-established case law that "[o]bviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1551, 1553, 220 U.S.P.Q. (BNA) 303, 311, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Because none of the cited references discloses a step of "selecting the maximum combined probability for transitions to the current state," no combination of the references could possibly render obvious claim 1.

Then, in the "Response to Arguments" section of the 5/17/07 final office action, instead of addressing the foregoing arguments made by the Applicant, the Examiner simply restates the Examiner's incorrect and wholly unsupported allegation that "[t]he instant application's disclosed prior art discloses updating the forward probability for a state comprises selecting the maximum combined probability for transitions to the current state given by equations 8-9 (Pg. 3)." As can plainly be seen in Equations 8 and 9 above, these equations do not disclose selecting a maximum combined probability for two or more transitions to the current state, as the Examiner claims. The

Applicant simply does not understand why the Examiner is asserting that Equations 8 and 9 disclose selecting a combined probability. If the Examiner truly believed that Equations 8 and 9 somehow disclose selecting a combined probability, then the Examiner has the burden of providing a detailed explanation of how this could possibly be the case, rather than repeating the same conclusory statement, so that the Applicant can have a fair opportunity to respond appropriately to this allegation. Otherwise, as fully discussed above, since neither the APA, nor Stephen, nor Hayashi discloses a step of “selecting the maximum combined probability for transitions to the current state,” none of these references, whether taken alone or in combination, could possibly render obvious claim 1.

Not surprisingly, in the 8/1/07 advisory action, the Examiner once again repeats the same conclusory statement that “**the instant application’s disclosed prior art** discloses updating the forward probability for a state comprises selecting the maximum combined probability (e.g. combined probabilities of transition from one or more states at k-1 to current states at time k) for transitions to the current state given by equations 8-9 (Pg. 3)” (emphasis in original). Yet again, the Examiner fails to allege how Equations 8 and 9, which disclose selecting a maximum probability for a single transition to the current state, could possibly disclose selecting a maximum combined probability. Equations 8 and 9 do not provide the teachings alleged by the Examiner, and the rejection of claim 1 based on such alleged teachings is improper.

For all these reasons, the Applicant submits that claim 1 is allowable over the cited references. For similar reasons, the Applicant submits that claims 9 and 16 are also allowable over the cited references. Since the rest of the claims depend directly or indirectly from claims 1, 9, or 16, it is further submitted that those claims are also allowable over the cited references. The Applicant submits therefore that the rejections of claims under Section 103 have been overcome.

In view of the above remarks, the Applicant believes that all of the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Date: 8/16/07  
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Respectfully submitted,



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